

Date: Wed, 27 Jul 94 04:30:10 PDT
From: Ham-Policy Mailing List and Newsgroup <ham-policy@ucsd.edu>
Errors-To: Ham-Policy-Errors@UCSD.Edu
Reply-To: Ham-Policy@UCSD.Edu
Precedence: Bulk
Subject: Ham-Policy Digest V94 #332
To: Ham-Policy

Ham-Policy Digest Wed, 27 Jul 94 Volume 94 : Issue 332

Today's Topics:

 FCC processing info ...
 Isn't Amateur Radio a Hobby? (3 msgs)
 Jeff Herman: your unanswered questions. (2 msgs)
 Where's the key? (2 msgs)

Send Replies or notes for publication to: <Ham-Policy@UCSD.Edu>
Send subscription requests to: <Ham-Policy-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Policy Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-policy".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Tue, 26 Jul 1994 09:36:41
From: ihnp4.ucsd.edu!news.cerf.net!gopher.sdsc.edu!news.tc.cornell.edu!
travelers.mail.cornell.edu!news.kei.com!ddsw1!mbi.moody.edu!farslayer.moody.edu!
pwalker@network.ucsd.edu
Subject: FCC processing info ...
To: ham-policy@ucsd.edu

I just called the W5YI-VEC because I was curious why a person who tested for
new license a week after I faxed the VEC a copy of my Advanced license (to
upgrade) would receive their license before me. I received some interesting
info.

According to the W5YI-VEC (to which I have no proof that these statements are
true):

The FCC HAS hired temporary help to aid in reducing the backlog.

The FCC IS processing license applications ALL 5 WORKING days now instead of
just 1.

And the bad news:

When the temps were brought in, it was not clearly explained to them that applications needed to be processed in a FIFO manner. Therefore, they started processing applications as soon as they received them in the mail. This explains the quick turnaround for some and the others who STILL have not received their license yet.

What I would take from this is: DO NOT expect your licenses in 6 weeks. I would expect that it is still in the 10-12 week range but is quickly coming down.

Like I said, I cannot prove or disprove these comments without calling the FCC myself (and why waste a phone call and tie up resources), and the W5YI-VEC will probably deny that they ever talked to me.

Paul -- N9WHG (still) /AE

Date: 26 Jul 1994 19:53:21 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!newsxfer.itd.umich.edu!
zip.eecs.umich.edu!yeshua.marcam.com!charnel.ecst.csuchico.edu!olivea!korie!
male.EBay.Sun.COM!@@ihnp4.ucsd.edu
Subject: Isn't Amateur Radio a Hobby?
To: ham-policy@ucsd.edu

In article <\$yJDkiubGENH066yn@access.digex.net> domonkos@access.digex.net (Andy Domonkos) writes:

>Unfortunately hams are becoming technically-illiterate. The packeteers
>whine about wanting to get on HF packet, they obviously don't understand
>how bad digital works on HF

Right. Would you believe some of these folks are so technically illiterate they don't even know there are digital modes other than packet?

--
Rich McAllister (rfm@eng.sun.com)

Date: 26 Jul 1994 19:51:19 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!newsxfer.itd.umich.edu!
zip.eecs.umich.edu!yeshua.marcam.com!charnel.ecst.csuchico.edu!olivea!korie!
male.EBay.Sun.COM!@@ihnp4.ucsd.edu

Subject: Isn't Amateur Radio a Hobby?
To: ham-policy@ucsd.edu

In article <424@ted.win.net> mjsilva@ted.win.net (Michael Silva) writes:

>but if a person is satisfied
>with the privileges of one of the entry-level licenses then what?

This is a very strange attitude. "Hey, here's somebody who's having a good time doing what he's doing, not bothering anybody. What a disaster! How can we stop that?"

>Limited-duration entry-level licenses, anyone?

Leaving the guy alone, anyone?

Rich

--

Rich McAllister (rfm@eng.sun.com)

Date: 26 Jul 1994 15:33:46 GMT
From: lll-winken.llnl.gov!overload.lbl.gov!agate!cat.cis.Brown.EDU!
adis-204.adis.brown.edu!user@ames.arpa
Subject: Isn't Amateur Radio a Hobby?
To: ham-policy@ucsd.edu

In article <424@ted.win.net>, mjsilva@ted.win.net (Michael Silva) wrote:

> Has anyone here argued that all hams must be technical experts? (Well,
> maybe one person...) There's a vast area between technical
> illiterate and technical expert, and that's where most hams reside.
> One of the purposes of incentive licensing is to move folks away from
> the technical-illiterate starting line, but if a person is satisfied
> with the privileges of one of the entry-level licenses then what?
> Limited-duration entry-level licenses, anyone?

I agree with having a limited duration for both the novice, tech+, and tech licensees. Say 2 years.

--

== Tony Pelliccio, KD1NR

== Anthony_Pelliccio@brown.edu, Tel. (401) 863-1880 Fax. (401) 863-2269

== The opinions above are my own and not those of my employer.

Date: Tue, 26 Jul 1994 19:34:48 GMT
From: news.Hawaii.Edu!kahuna!jeffrey@ames.arpa
Subject: Jeff Herman: your unanswered questions.
To: ham-policy@ucsd.edu

In article <1994Jul26.142036.20966@mixcom.mixcom.com> kevin jessup
<kevin.jessup@mixcom.mixcom.com> writes:

>Jeff,
>
>Before I opted out of the ongoing flame war, you left some
>questions regarding my proposals for math on the theory
>tests.
>
>Besides math, I would like to discuss other aspects of the
>theory test (such as the practical application of math to
>our hobby) as soon as your Email address is functional.

Kevin: I've been appending my email address onto each and every one
of my articles. You won't get me by using R(eply) - there's
a problem with the math dept's software and they feel it will
cause more problems if they attempt to fix it.

Jeff NH6IL
jeffrey@math.hawaii.edu will work; the default address above won't.

Date: Tue, 26 Jul 1994 14:20:36 GMT
From: lll-winken.llnl.gov!uwm.edu!mixcom.com!kevin.jessup@ames.arpa
Subject: Jeff Herman: your unanswered questions.
To: ham-policy@ucsd.edu

Jeff,

Before I opted out of the ongoing flame war, you left some
questions regarding my proposals for math on the theory
tests.

Besides math, I would like to discuss other aspects of the
theory test (such as the practical application of math to
our hobby) as soon as your Email address is functional.

As I said previously, I do not think we should use the
r.r.a.p. area itself for "discussions" ;-) that involve
mostly just you and me. I feel most people are not
interested.

--

kevin.jessup@mixcom.com | Vote Libertarian!
|
| Call 1-800-682-1776
| for more information.

Date: 26 Jul 94 19:11:58 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!dancer.ca.sandia.gov!
cronkite.nersc.gov!fastrac.llnl.gov!lll-winken.llnl.gov!unixhub!
headwall.Stanford.EDU!abercrombie.Stanford.EDU!paulf@@.
Subject: Where's the key?
To: ham-policy@ucsd.edu

alan.wilensky@channel1.com (Alan Wilensky) writes:

>Sorry brother, a Spread Spectrum radio will deliver voice or data
>through and impossible EMP background. CW will not, we have tested this
>at work.

Yes, but in the process, it will occupy 10db more spectrum. Either you get
noise immunity or spectral efficiency. Not both. Oh yeah, make sure that
said system is as cost effective as the one you're claiming is obsolete.

--

-=Paul Flaherty, N9FZX | "The Enemy of the Good is the Better."
->paulf@Stanford.EDU | -- Gen. William "Wild Bill" Donovan

Date: 26 Jul 1994 16:19:13 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!eff!
news.kei.com!ssd.intel.com!chnews!scorpion.ch.intel.com!cmoore@ames.arpa
Subject: Where's the key?
To: ham-policy@ucsd.edu

In article <40.2466.2427@channel1.com>,
Alan Wilensky <alan.wilensky@channel1.com> wrote:
>

>What is CCW? Its not in my radio books.>Alan Wilensky, N1SS0

Hi Alan, it's Coherent CW covered right after Spread Spectrum in the
ARRL Handbook. I really would like to know how CCW compares to SS.

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

Date: Tue, 26 Jul 1994 20:16:13 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!dancer.ca.sandia.gov!cronkite.nersc.gov!
fastrac.llnl.gov!lll-winken.llnl.gov!noc.near.net!howland.reston.ans.net!
europa.eng.gtefsd.com!@@ihnp4.ucsd.edu
To: ham-policy@ucsd.edu

References <3113tg\$03m@crl4.crl.com>, <424@ted.win.net>,
<Anthony_Pelliccio-260794113504@adis-204.adis.brown.edu>go
Subject : Re: Isn't Amateur Radio a Hobby?

In article <Anthony_Pelliccio-260794113504@adis-204.adis.brown.edu>

Anthony_Pelliccio@brown.edu (Tony Pelliccio) writes:

>From: Anthony_Pelliccio@brown.edu (Tony Pelliccio)

>Subject: Re: Isn't Amateur Radio a Hobby?

>Date: 26 Jul 1994 15:33:46 GMT

>In article <424@ted.win.net>, mjsilva@ted.win.net (Michael Silva) wrote:

>> Has anyone here argued that all hams must be technical experts? (Well,
>> maybe one person...) There's a vast area between technical
>> illiterate and technical expert, and that's where most hams reside.
>> One of the purposes of incentive licensing is to move folks away from
>> the technical-illiterate starting line, but if a person is satisfied
>> with the privileges of one of the entry-level licenses then what?
>> Limited-duration entry-level licenses, anyone?

>I agree with having a limited duration for both the novice, tech+, and tech
>licensees. Say 2 years.

>

Then you had better make the General license also 2 years..from a pre-
1986 Tech + (with the General theory) view point!

Or is this a CW AND Technical argument? If it is then please clearly
state this. The only way that you can ask for limited duration licences (
and include the Tech+ - there may be some pre-1986 Tech+ out there) is to
state that the person must NOT have yet passed the 13 wpm AND the theory
elements required for the General licence.

Limited duration for the Novice class is ok..that was the way it was when I
got mine.

Bruce Micales
WA2DEU

Date: 26 Jul 1994 21:41:52 GMT
From: tcsi.tcs.com!agate!kennish@uunet.uu.net
To: ham-policy@ucsd.edu

References <310thm\$ept@chnews.intel.com>, <31282t\$ctr@ccnet.ccnet.com>,
<313dne\$gpg@chnews.intel.com>
Subject : Re: Where's the key?

In article <313dne\$gpg@chnews.intel.com>,
<Cecil_A_Moore@ccm.hf.intel.com> wrote:
>In article <31282t\$ctr@ccnet.ccnet.com>,
>Bob Wilkins n6fri <rwilkins@ccnet.com> wrote:
>>Cecil_A_Moore@ccm.hf.intel.com wrote:
>>
>>: Hi Paul, time to update your knowledge. SS gets through when CW can't.
>>: Of course, SS electronics are more complex than CW electronics.
>>
>>While your Slow Speed may be superior due to band width my CDMA system
>>will beat your Code Wave electronics.> Bob Wilkins
>
>Hi Bob, FYI, SS stands for Spread Spectrum of which your CDMA is a sub-
>set... what the heck is Slow Speed? ... and I'm wondering if SS/CDMA
>would beat Coherent CW (CCW).
>
>73, Cecil, KG7BK, 00TC (Not speaking for Intel)
>
>

WHOA, STOP, HALT!

Before we get going on a flame war about CW vs. CCW vs. SS vs. any
other modulation method, let's make sure the playing field is
level. What are we talking about? Ability to get
a signal through a constant background of white noise?
Ability to get through in an environment of lots of independent
narrowband signals? How are we measuring transmitted power?

CW, CCW and most other digital modulation methods are narrowband.
That is, a carrier as a quasi-constant frequency is modulated
in phase and/or amplitude to convey information. In this realm,
with a background of independent WSS gaussian white noise,
DPSK wins when a cap is placed on peak power (what hams have),
and CCW is equal when average power is used (assuming 50% mark
space ratio). DPSK is 3 dB better than CCW since you are
inverting the phase of the carrier during mark, and leaving the
carrier on during space. CCW just uses a carrier of known phase
during mark. At the receiver, both DPSK and CCW use a coherent
detector with a threshold. With CCW, during mark, the receiver

will correlate the received signal and generate a signal, which would trigger the threshold. During space, you are demodulating uncorrelated white noise, and the average value is zero. So, the threshold would be 1/2 the way between zero and full correlation.

In DPSK, during mark, the same thing occurs. During space, you have anti-correlation, or a signal of the opposite polarity, so the threshold is set at zero, and the received signal coming out of the detector is bipolar. You basically use both positive and negative outputs to determine the symbol transmitted. So, you get 3 dB more system SNR. The drawback is that you are transmitting power during both mark and space, so the average power = peak power, while in CCW, the average power = $(\text{mark time} / (\text{mark time} + \text{space time})) \times \text{peak power}$.

Now, SS. SS is really not a modulation scheme in and of itself, since it is used in conjunction with some underlying modulation scheme such as QPSK, or DPSK. What SS does, is it spreads the signal coming out of the digital modulator with a known pseudo-random pattern. The result is that the narrowband signal is transformed into a wideband signal whose power density PER UNIT BANDWIDTH is much lower than that for a narrowband signal. The INTEGRATED POWER over the bandwidth is the same.

What goes on at the receiver? Well, the wideband signal is sent to a correlator, where it is cross-correlated with the same known pseudo-random pattern. The original wideband signal now correlates back to a narrowband signal, while the background noise, being uncorrelated, correlates into some other random noise. A narrowband interfering signal within the passband of the SS signal, being uncorrelated to the pseudorandom signal will decorrelate into random noise. The catch is -- the signal doesn't disappear -- it just goes into making the noise floor higher. Herein is the fallacy of SS. SS works great when you have spectrum control. If you know what is in the band, and can control who uses the band, then SS is happy. Put a high-power narrowband signal, and you've raised the noise floor, possibly ruining the decorrelated SS signal.

Example:

You have a 100 KHz wide modulated signal, you have 10 MHz of spectrum. So, you spread it by a factor of 100 or 20 dB (we are talking power per bandwidth, so it's 10 log, not 20 log). Say we transmit with 10W of power or +40 dBm.

Now, assume 100 dB of path loss, so the signal at the

receiver, after an ideal decorrelation is +40-100 or -60 dBm. Now, someone rudely decides to use a narrowband signal in your 10 MHz of spectrum -- after all, it IS a lot of spectrum. Say they transmit a totally uncorrelated signal at 10W (+40 dBm). At the antenna, it is -60 dBm due to path loss. After decorrelation, you get 20 dB more, so the integrated noise power IN THE PASSBAND OF THE DESIRED NARROWBAND SIGNAL is now -80 dBm. You have 20 dB C/N, OK for most things. Now, what if the narrowband signal is 100W? (+50 dBm), then your C/N ratio is only 10 dB. This will not support most modes of digital communication. But you can get lots of CW or CCW QSOs in the same 10 MHz bandwidth without interference.

So, it really depends on the environment you are working on. SS allows a great many people to share a frequency band without prior coordination, as long as they agree to all use SS and obey power control. SS has graceful degradation, so that if a narrowband interferer comes up, the S/N post decorrelator slowly gets worse, rather than being wiped out in the case of a narrowband signal. But put enough energy into the passband of the spread signal, and you're hosed.

SS also requires synchronization between the Tx and Rx. This requires a better C/N ratio than after they are locked, or can take a lot of time (GPS has a quite long time to first fix for this reason).

For getting through QRM, I think I'll opt for DPSK. SS is a way to get around a narrowband interference of EQUAL or slightly greater power than yours.

==Ken

Date: Tue, 26 Jul 1994 19:38:34 GMT
From: news.Hawaii.Edu!kahuna!jeffrey@ames.arpa
To: ham-policy@ucsd.edu

References <carreiroCtHDz1.1rx@netcom.com>, <CtIJ9z.1pC@news.Hawaii.Edu>,
<1994Jul26.144512.21836@mixcom.mixcom.com>
Subject : Re: Where's the key?

In article <1994Jul26.144512.21836@mixcom.mixcom.com> kevin jessup
<kevin.jessup@mixcom.mixcom.com> writes:
>In <CtIJ9z.1pC@news.Hawaii.Edu> jeffrey@kahuna.tmc.edu (Jeffrey Herman) writes:
>

>>Just for a challenge I did the following
>>on Saturday: After finding an old color TV outside someone's home
>>(they'd thrown it out), I timed myself from striping the chasis to
> ^^^
>a finished 3579 kHz CW transmitter (all color TV's contain a 3579 kHz
>>crystal).
>
>You even gave a custom paint-job to your home-brew CW rig, Jeff??
>Finally! A comment from Jeff in favor of advancing the "radio art"! ;-))

Yes, but the second time I used the word `stripping' I spelled it
correctly. I don't have any fancy spell checker, just a two volume
Oxford English Dictionary (that I should open occasionally...)

Jeff NH6IL
jeffrey@math.hawaii.edu

Date: Tue, 26 Jul 1994 14:45:12 GMT
From: lll-winken.llnl.gov!uwm.edu!mixcom.com!kevin.jessup@ames.arpa
To: ham-policy@ucsd.edu

References <775104287snx@skyld.grendel.com>, <carreiroCtHDz1.1rx@netcom.com>,
<CtIJ9z.1pC@news.Hawaii.Edu>
Subject : Re: Where's the key?

In <CtIJ9z.1pC@news.Hawaii.Edu> jeffrey@kahuna.tmc.edu (Jeffrey Herman) writes:

>Just for a challenge I did the following
>on Saturday: After finding an old color TV outside someone's home
>(they'd thrown it out), I timed myself from striping the chasis to
> ^^^
>a finished 3579 kHz CW transmitter (all color TV's contain a 3579 kHz
>>crystal).

You even gave a custom paint-job to your home-brew CW rig, Jeff??
Finally! A comment from Jeff in favor of advancing the "radio art"! ;-))

Perhaps you could get a photograph of the unit published in the front pages
of QST side-by-side with all those oversized, highly varnished wooden keys and
the like.

--
kevin.jessup@mixcom.com | Vote Libertarian!
|
| Call 1-800-682-1776
| for more information.

Date: Tue, 26 Jul 1994 13:46:44 GMT
From: news.cerf.net!gopher.sdsc.edu!nic-nac.CSU.net!charnel.ecst.csuchico.edu!
yeshua.marcam.com!zip.eecs.umich.edu!newsxfer.itd.umich.edu!europa.eng.gtefsd.com!
howland.reston.ans@ihnp4.ucsd.edu
To: ham-policy@ucsd.edu

References <CtHF9J.FCK@news.Hawaii.Edu>,
<1994Jul25.153818.6899@mixcom.mixcom.com>,
<paulf.775176648@abercrombie.Stanford.EDU>m
Subject : Re: What is wrong with ham radio

In <paulf.775176648@abercrombie.Stanford.EDU> paulf@abercrombie.Stanford.EDU (Paul
Flaherty) writes:

>kevin jessup <kevin.jessup@mixcom.mixcom.com> writes:

>>No, Paul did not say that. As usual, I am all screwed up here. ;-))
>>Sorry Paul.

>Never post before morning coffee, I always say. ;-)

Or drinking way too much! :-)

--

kevin.jessup@mixcom.com		Vote Libertarian!
		Call 1-800-682-1776
		for more information.

Date: Tue, 26 Jul 1994 20:29:24 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!europa.eng.gtefsd.com!
news.msfc.nasa.gov!news.larc.nasa.gov!saimiri.primite.wisc.edu!news.doit.wisc.edu!
F181-081.net.wisc.edu!bmicales@network
To: ham-policy@ucsd.edu

References <424@ted.win.net>,
<Anthony_Pelliccio-260794113504@adis-204.adis.brown.edu>,
<bmicales.169.2E356F0C@facstaff.wisc.edu>edu
Subject : Re: Isn't Amateur Radio a Hobby? Correction

> pre-1986 Tech + (with the General theory) view point!

Oopss..this should be pre-March 21, 1987 (to conform with the FCC regs).

Bruce Micales
WA2DEU

End of Ham-Policy Digest V94 #332
